



**46 Hamza and his men are caught by flood-waters when the dam is opened**  
*Dastan-i Amir Hamza* (The Story of Hamza)  
 Mughal India, c. 1575  
 Ms. 1; 67.5 x 51.5 cm

The story of Hamza relates the amazing adventures of the Prophet Muhammad's uncle who died in 624. Numerous versions of the tales exist in both Arabic and Persian. This one does not correspond exactly to any of the earlier versions, probably because it was an oral one taken down from a story-teller on the instruction of the Emperor Akbar (1556-1605). The paintings are of an extremely large size and painted on cotton with the text on the

back. The 1400 illustrations, only a fraction of which survive, were produced under the direction of Mir Sayyid 'Ali and 'Abdal-Samad. The picture illustrates the point where Tayhur, who has pretended to become a Muslim, opens the dam and blocks off Hamza's retreat in an attempt to drown him and his men. The story continues in the next 'frame' in the George Bickford Collection (Welch, 1973, no. 53) where 'Alam-Shah climbs up to the dam and cuts the chain attached to the huge plug which has been raised to let out the water. The close relationship between the two scenes shows just how tightly the full cycle must have been organised.

Published: C.B.L. Indian Cat., vol. II, pl. 2.

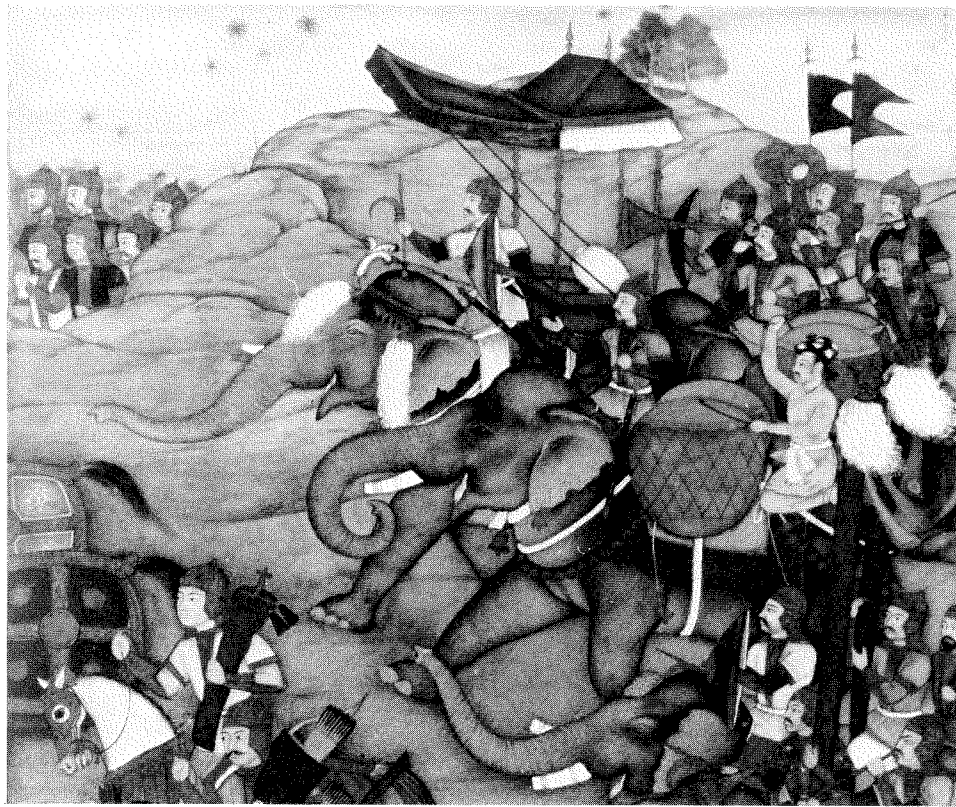


**47 The death of the elephant**  
*Tuti-Nama* (Tales of a Parrot) of Ziya' al-Din Nakhshabi (d. 1330)  
 Mughal Indian, c. 1580  
 Ms. 21, fol. 104r; 25 x 16.5 cm

The *Tuti-Nama* was one of the most popular works of Mughal India. Three versions existed: this is the earliest and most complex. To thwart the amorous intentions of Khojista during the absence of her merchant husband, his parrot tells her a different tale each night. In this, of the 38th night, the hen-sparrow (*sa'wa*) takes revenge against the elephant with the aid of a longbill (*daraz-nawk*), a bee and a frog. After the elephant damages the hen-sparrow's nest, she consults with her friends and together they hatch a plan of revenge. The bee distracts the elephant and the longbill pecks out its

eyes. After the blinded beast grows thirsty the frog's croaking lures it to its doom in a pit. In this picture we see the climax of the tale as the elephant tumbles head first into the abyss, while the red-headed hen-sparrow looks on from an overhanging tree. The painter is unknown but he was one of several artists who worked on the manuscript. In 1978 a closely related manuscript was sold in London (Colnaghi, Indian Painting no. 5). According to its colophon it was copied in 1583 at Hajipur. This copy of the *Tuti-Nama* passed through many hands including those of Shah Jahan. It came to Europe in 1836 by way of a French soldier-of-fortune, Jean Francois Allard, who died in Lahore in 1839. There is a fine 18th or 19th century Indian lacquer binding.

Published: *Tuti-Nameh*, 1978, p. 352.



**48 (a) The Battle of Ahmadabad;  
(b) Akbar and the Jesuits**

*Akbar-Nama* (History of Akbar) of  
Abu'l-Fazl (d. 1602)

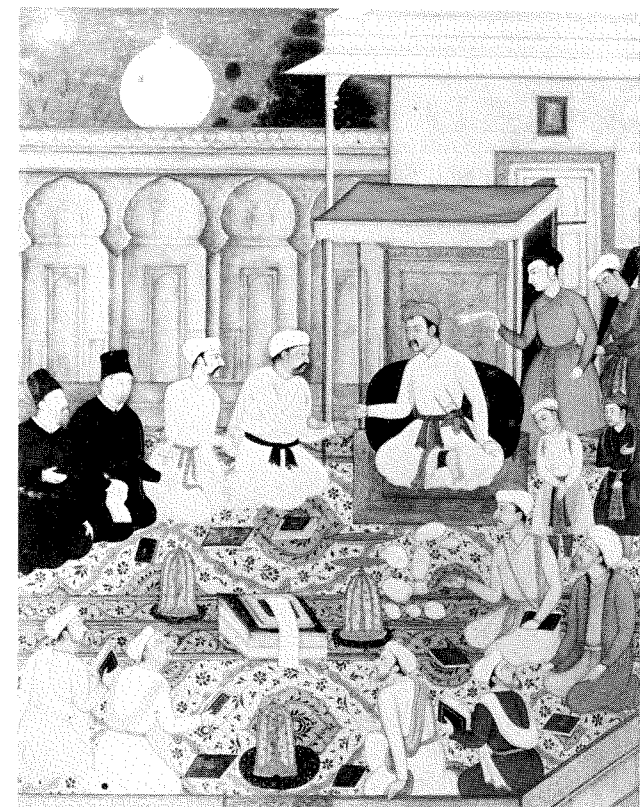
Mughal India, c. 1602-5

Ms. 3; fols. 187v-188r, 263v; 43.5 x 28.6 cm

(a) The Mughal Emperor Akbar was one of the ablest and most outstanding rulers of India. He was assisted by a vizier of almost equal ability, Abu'l-Fazl, who found time among his activities to compose a history of his sovereign, the *Akbar-Nama*. This tells the story of the life of the emperor until 1602. Although the emperor was virtually illiterate, he loved books. The court studio was kept continually busy producing manuscripts for him. This one is divided between the British Library and the Chester Beatty Library. The latter half contains 61 illustrations attributed to a team of 20 painters.

The painting which extends over two pages is by Sur Das, who is responsible for 5 others. It illustrates the Battle of Ahmadabad in September 1573. After a spectacular march of 600 miles across Rajputana in 9 days, Akbar defeated the rebellious Muhammad Husayn Mirza in Gujarat. In the course of the battle the emperor, who had rushed into the fray, was wounded in the foot. Here we see him (left centre fol. 188r) dripping with blood, yet still able to dispatch an enemy soldier with his lance. Behind him come the imperial elephants in one of the best renditions of this subject. By alternating the swing of their trunks, first up and then down, the painter has conveyed perfectly the lumbering gait of the mighty beasts as they surge forward into combat.

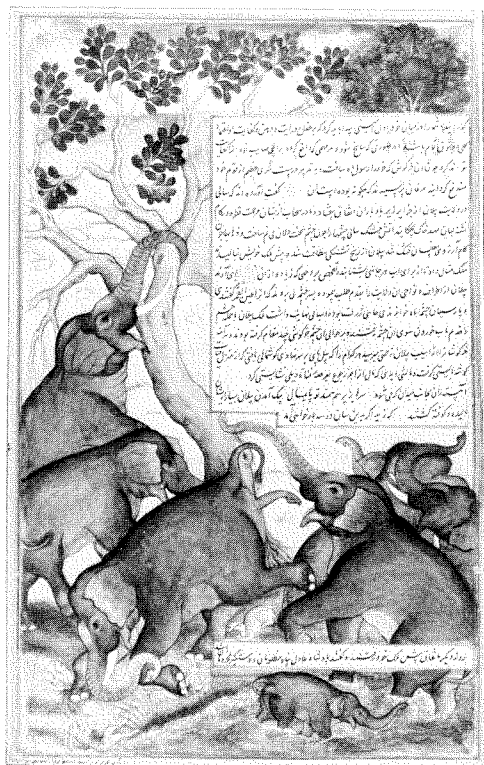
Published: C.B.L. Indian Cat., vol. II, pls. 29-30; James, 1980 (ii), Abb. 3.



(b) Akbar's interest in religious and philosophical discussion is well-known. In his palace at Fatehpur-Sikri there was a special building, the *'ibadat-khana*, where these discussions took place. They were not confined to Muslims: Hindus, Zoroastrians and members of other faiths were admitted. In 1580 following the visit of the Portuguese viceroy to Goa, a number of Jesuits were invited to attend Akbar. The mission remained at the court, where it had direct contact with the emperor, for several years. In this scene by Nar Singh, Akbar appears in the *'ibadat-khana* at a nocturnal session which includes two of the Jesuits. One is Fr Aquaviva, head of the mission, the other is probably Francisco Henriques, the interpreter. On this occasion — a debate on the relative superiorities of Christianity and Islam — Fr Aquaviva challenged a

Muslim divine to enter a blazing fire with him, each holding their respective scriptures in order that the ordeal by fire might prove the merits of one religion over the other. According to the author the challenge was sensibly declined. Other sources, however, say that it was the emperor who made the proposal but Fr Aquaviva declined to 'tempt God'. Akbar's real interest did not lie in any of the religions he toyed with. From about 1579 he had ceased to be a Muslim and proceeded down spiritual paths where his Muslim subjects could not follow. In 1581 he devised a new cult, the *Din-i Ilahi* or 'Divine Faith', which contained elements from several doctrines.

Exhibited: London, 1947-8, no. 677 (f). Published: C.B.L. Indian Cat., vol. II, pl. 36; Blochet, 1929, pl. 180; MacLagan, 1932, frontispiece; Gascoine, 116.



#### 49 The story of the hares and the elephants

*‘Iyar-i Danish* (Criterion of Knowledge)  
Mughal India, c. 1605  
Ms. 4; fols. 32r, 33r, 34r; 19.6 x 12.8 cm

The *‘Iyar-i Danish* is a simpler version of Kashifi's *Anwar-i Suhayli*, a famous collection of fables with a moral, instructive purpose. It was composed by Abu'l-Fazl, Akbar's chief minister, in 1588. More than 30 painters worked on the manuscript, often signing their names and the length of time they took to make each picture. Some of these artists later became very well-known. The 3 pictures illustrate the details of the anecdote:

(a) After a drought the elephants migrate to a



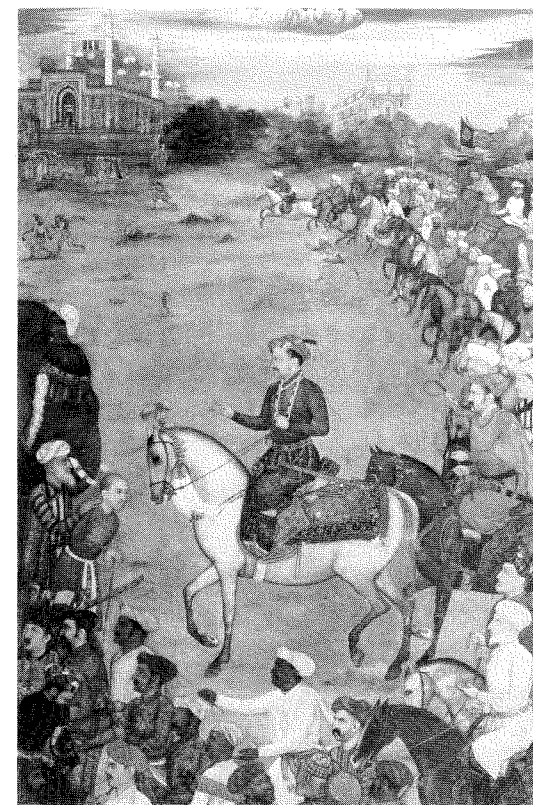
spring called the Fountain of the Moon, crushing in the process the hares who inhabit that spot. (By Surjan.)

(b) The hare's envoy, Bihruz, tells the elephants that the wrath of the moon will befall them. (By Dharm Das Tunrah.)

(c) The king of the elephants kneels before the reflection of the moon and promises to take his followers away. (By Surjan.)

Islamic painters were renowned for their representations of animals but, as these paintings show, few surpassed the painters of India — whether Muslim or Hindu — in their sensitive observation of the animal world.

Published: C.B.L. Indian Cat., vol. II, pl. 43, a,b.



#### 50 Jahangir visiting Akbar's tomb *Jahangir-Nama* (History of Jahangir) Mughal India, c. 1620 Ms. 34: 5; 38.5 x 26.5 cm

Like his father before him Jahangir ordered an illustrated chronicle of his reign. But whereas the *Akbar-Nama* was a straightforward history, the *Jahangir-Nama*, or *Tuzuk-i Jahangiri*, was a series of memoirs composed by the emperor. No fully illustrated copy has survived but there are 20 or more loose paintings in existence which are believed to have been part of the work. This one apparently illustrates a visit paid by Jahangir to his father's tomb in 1619; the building, which was re-designed by Jahangir, may be seen in the

background. The emperor is accompanied by a cavalcade of horsemen and figures on foot; many of them are recognisable portraits. The central incident, which shows a bound figure brought before Jahangir, does not appear in the normally detailed pages of the memoirs (see *Tuzuk*, vol. II, p. 101-2). Nor is there any reference to the events in the background where the soldiers on the distant flank break into an attack on a group of unarmed bystanders in front of the tomb. On the reverse are 4 lines of *nasta‘liq* calligraphy by Hafiz Nurallah who worked at the court of the 18th century Nawab of Oudh, Asaf al-Dawla.

Exhibited: London, 1947-8, No. 730. Published: Wilkinson, 1958, pl. 5.



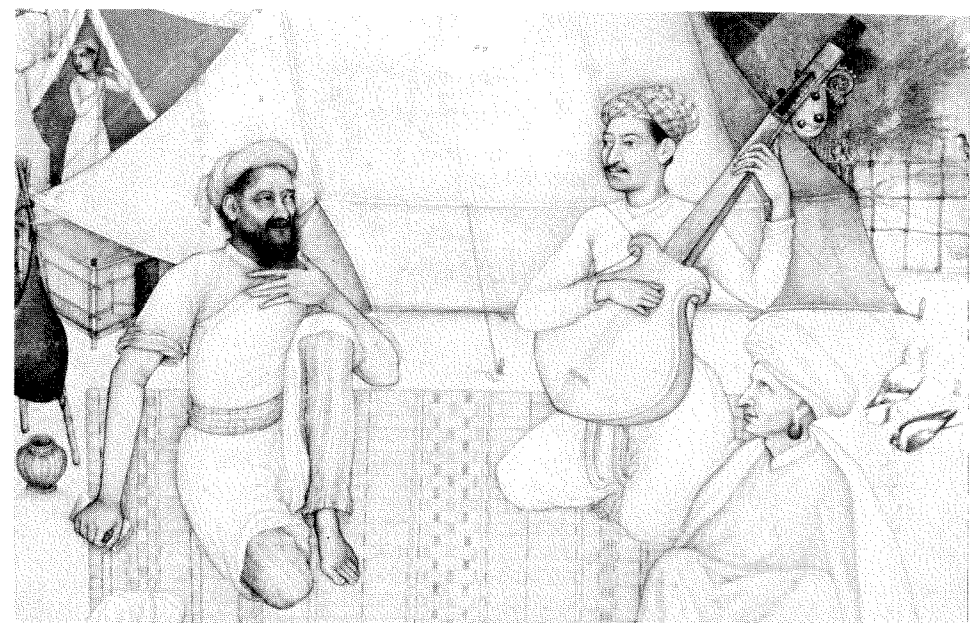


**51(a) Sheep in a landscape, by Padarhat**  
From an album of painting and calligraphy (the Minto album)  
Mughal India, c. 1610-20  
Ms. 7: 1, 28 x 19 cm

The Mughal Emperor Jahangir had the inquisitive mind of a scientist. His Memoirs are full of minute and detailed observations of natural phenomena and he often instructed his court painters to record such things, particularly matters concerning animals. This long-haired sheep, which was possibly of European origin, is attributed to Padarhat. It shows the animal standing in a mountain landscape against a rose-red sky. The brass bell around its neck suggests that it may have been a pet. Padarhat (also referred to as Padarat) was one of Akbar's painters who continued to work for his son Jahangir. The Chester Beatty Library has another of his four known pictures, showing the rebel Hemu brought before

Akbar (*Akbar-Nama* fol. 19r). Above are Persian verses copied by Shah-Mahmud Nishapuri, who died in Mashhad in 1564-5. He practised all the larger calligraphic hands, but his speciality was *ghubar*, a minute *naskh*-type. This example is in tiny *nasta'liq*. The verses are probably his own composition as he was a good poet. The well-known historian of painting and calligraphy, Qadi Ahmad took lessons from him in Mashhad. See, Huart 226, 239; Minorsky 135-8; Faza'ili 489-91. The verses below are in the hand of Mahmud bin Ishaq Shihabi. He was taken to Bukhara after the capture of Herat by the Uzbeks, where he became the pupil of Mir<sup>c</sup>Ali. According to Qadi Ahmad his work is scarce as he did not have to earn his living by producing specimens of calligraphy. He died in Balkh about 1583, aged 80. See Huart 254; Minorsky 131-2; Faza'ili 479.

Exhibited: London 1947-8, No. 739. Published: CBL Indian Catalogue, vol. II, pl. 1.



**51(b) Figures in an encampment, by Govardhan**

From an album of painting and calligraphy (the Minto album)  
Mughal India, c. 1625-30  
Ms. 7: 11; 38 x 27 cm

An amusing 'genre' scene by one of the great painters of the Mughal court, Govardhan. It appears to depict two people singing before a holy man. The incident occurs in a camp which may be part of the huge royal camp, of which graphic accounts exist. The background beyond the main tent is a good example of the technique of *dur-numa*, or 'distant view', which was superimposed on the traditional 'high-horizon' format of Islamic miniature painting. This part contains one of the few Mughal representations of 'real' India — a rural scene far from the luxury and ceremony of the court. The blue border with its gold flowers is signed by Harif. On the reverse side are 4 lines of Persian verse in fine *Nasta'liq*:

*A word that the pen from passion has writ,  
will move your heart, 'tis clear.  
Would that I could find one love-sick  
and bewildered  
to tell you of the pain in my heart.*

This is signed by Mir<sup>c</sup>Ali (Harawi), as is most of the calligraphy in the Jahangir and Shah Jahan albums. Mir<sup>c</sup>Ali was a prolific 16th century Iranian master who worked in Herat and later in Bukhara. The Mughals were evidently particularly fond of his work. To be incorporated into the albums these pieces of calligraphy must have been obtained undecorated, as all the surrounding decoration is of Mughal origin. Although the incidence of this type of fine calligraphy without decoration is very small, it is by no means impossible that examples were acquired from Herat or Bukhara before illuminators had worked on them. Qadi Ahmad, writing in 1596-7, mentions that examples of his work existed in large numbers in albums and as separate pieces (sing. *qit'a*). Mir<sup>c</sup>Ali was also a poet, so many of the verses written by him may be his own compositions. Another possibility, not to be overlooked, is that the pieces may be copies, tailored to fit the backs of the paintings. The calligraphy is surrounded by naturalistic, easily recognisable flowers, the work of Dawlat who has signed the page in tiny characters. For Mir<sup>c</sup>Ali see Huart (p. 227), Minorsky (pp. 126-31) and Faza'ili (pp. 473-8).

Published: C.B.L. Indian Cat., vol. III, frontispiece; Welch, 1978, pl. 28.



**51(c) Portrait of Shah Jahan with his four sons, by Bal Chand**

From an album of painting and calligraphy (the Minto album)  
Mughal India, c. 1630  
Ms. 7: 10; 38 x 27 cm

Shah Jahan is perhaps the best known Mughal ruler because of the Taj Mahal which he built as a tomb for his wife. In this allegory, of which the Mughals were so fond, the emperor stands on a globe surrounded by four of his sons in a paradisal garden. Above through a gap in the firmament winged *putti* descend with a crown. The latter is clearly taken from Western art, though the motif — like the halo which surrounds the emperor's head — is of ancient Near Eastern origin. The monarch's eldest son, Dara Shukoh, hands him a tray of gems. Edward Terry, chaplain to the English ambassador at the Mughal court, describes Shah Jahan as 'the greatest and richest master of precious stones that inhabits the whole earth'. He had a connoisseur's eye for gems and his opinion was as accurate as that of a professional jeweller. Next to him are Shah Shuja<sup>c</sup>, Aurangzeb and Murad Bakhsh. Shah Jahan was 'cursed with four able sons', each capable of succeeding him, who fought each other to the death to do so. The victor was Aurangzeb, his third son. Beyond the figures are some Persian verses in extravagant praise of the emperor. The picture is by Bal Chand,

who has signed his name between the ruler's feet. The realism of the portraits contrasts with the stylisation of the postures, in which the parts of the body are shown separately in their most instantly recognisable form but do not make an integrated whole. The combination of these two features means that formal Mughal portraits, while appearing close to Western ideas of the portrait, are at the same time the most remote from them. For Bal Chand see Beach, 1978, p. 95.

The reverse side contains 4 lines of Persian verse in fine *Nasta'liq*:

*Before the gentle zephyr brought the  
fragrance of your hair,*

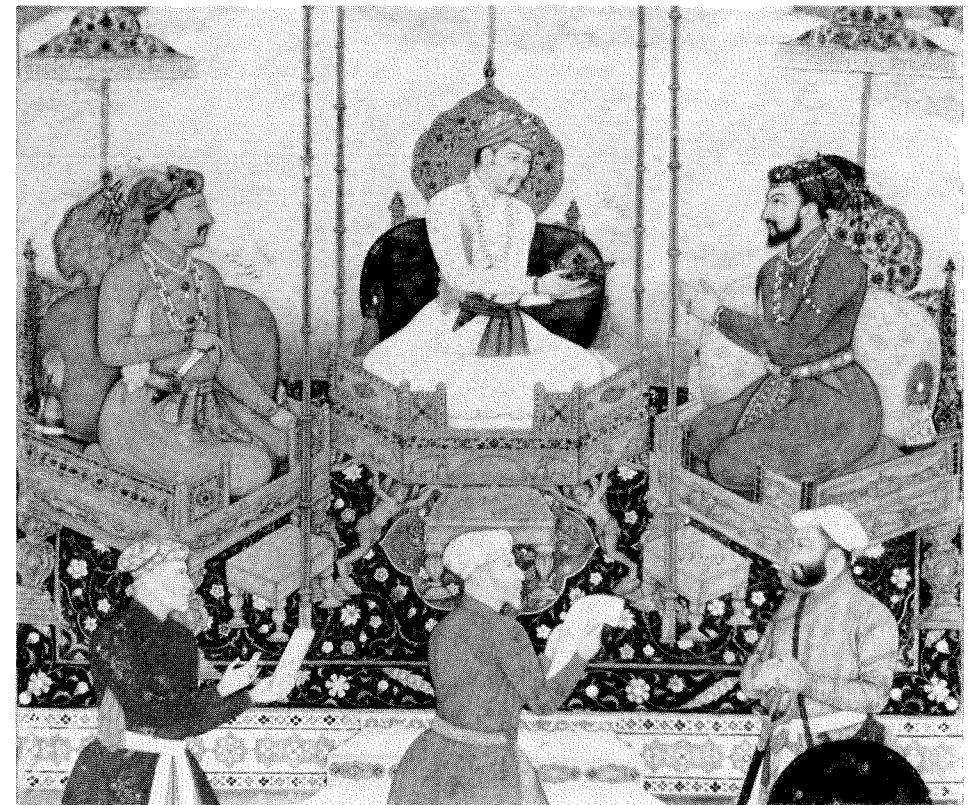
*My heart had no desire on earth.*

*But among those delicate beauties of your  
ilk*

*The World has no harsher mistress.*

The calligraphy is signed by Mir Ali Harawi. It is not clear whether the 10 verses in smaller script are also by him. The panel is beautifully decorated with shrubs, flowers and mating birds. The composition is signed in minute characters: *'amal-i Dawlat* (the work of Dawlat). Dawlat was a well-known court-painter who worked between 1597 and 1630. These floral compositions date from the end of his career. The outer border is identical to that of no. 50 (a), signed by Harif.

Exhibited: London, 1947-8, no. 756. Published: C.B.L. Indian Cat., vol. III, pl. 29; James, 1980 (ii), Abb. 8.



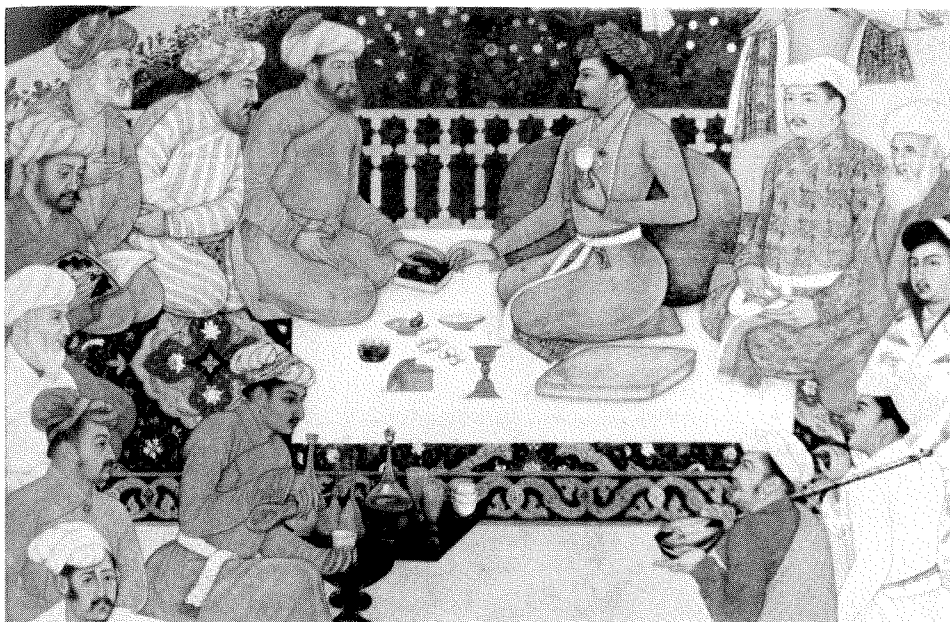
**51(d) The Mughal Emperors Jahangir, Akbar and Shah Jahan, by Bichitr**

From an album of painting and calligraphy (the Minto album)  
Mughal India, c. 1631 (?)  
Ms. 7: 19; 38 x 27 cm

Formal throne scenes of this type were quite common in Mughal painting. This is one of the most famous. It shows Shah Jahan being passed the crown by his late grandfather, watched by his father. The emperors sit on similar golden thrones, which though basically oriental have a number of Renaissance features. The group is placed on a white marble platform spread with a magnificent carpet. In front, from left to right, are I<sup>c</sup>timad al-Dawla, father of Jahangir's favourite wife Nur Jahan, Khan A<sup>c</sup>zam, Akbar's foster brother, and Asaf Khan, father of Shah Jahan's fav-

ourite wife Mumtaz Mahal. A very similar painting, formerly in the collection of the Comtesse de Béarn (Vever, pl. CLIX and Sotheby Cat., 1.12.1969, lot 152), shows Akbar handing Shah Jahan a jewelled plume. All the figures are portraits but still have their names written next to them. Khan A<sup>c</sup>zam holds a sheet bearing a short prayer (Qur'an LXI, 13) and the words 'Allahu Akbar!' (God is Great!), an expression of especial symbolism under the Emperor Akbar. On the stool in front of Shah Jahan is the signature of the artist, 'the work of the loyal servant (*ghulam ba-ikhlas*) Bichitr' and the regal date of Shah Jahan 3(?) 1631, although this painting is usually attributed to the years 1635-40. On the reverse side is an elaborate gold arabesque, indicating that this page was the final one in the album.

Published: C.B.L. Indian Cat., vol. III, pl. 65.



51(e) A prince seated in a garden with sages, by Bichitr

From an album of painting and calligraphy (the Minto album)  
Mughal India, 2nd quarter of the 17th century  
Ms. 7: 7; 38 x 27 cm

According to Beach (*op. cit.*, p. 106) this person is unidentifiable. However, Welch and others suggest that it represents Dara Shukoh, Shah Jahan's favourite son. Like his great-grandfather Akbar, Dara Shukoh displayed considerable interest in religions. He was especially attracted to Hinduism, even going to the lengths of presenting a stone railing to an important Hindu temple. It was easy for his enemies to bring a charge of heresy against him. Following the civil war of 1656-8 which brought Aurangzeb, his younger brother, to the throne, Dara Shukoh was executed after undergoing a public humiliation. If this picture represents Dara Shukoh, then we probably see him engaged in one of his favourite pastimes — discussing some learned topic with sages and holy men. The picture by Bichitr, one of the great portraitists of the time, preserves the underlying structure of Iranian miniature painting, while transforming it into something quite new and entirely

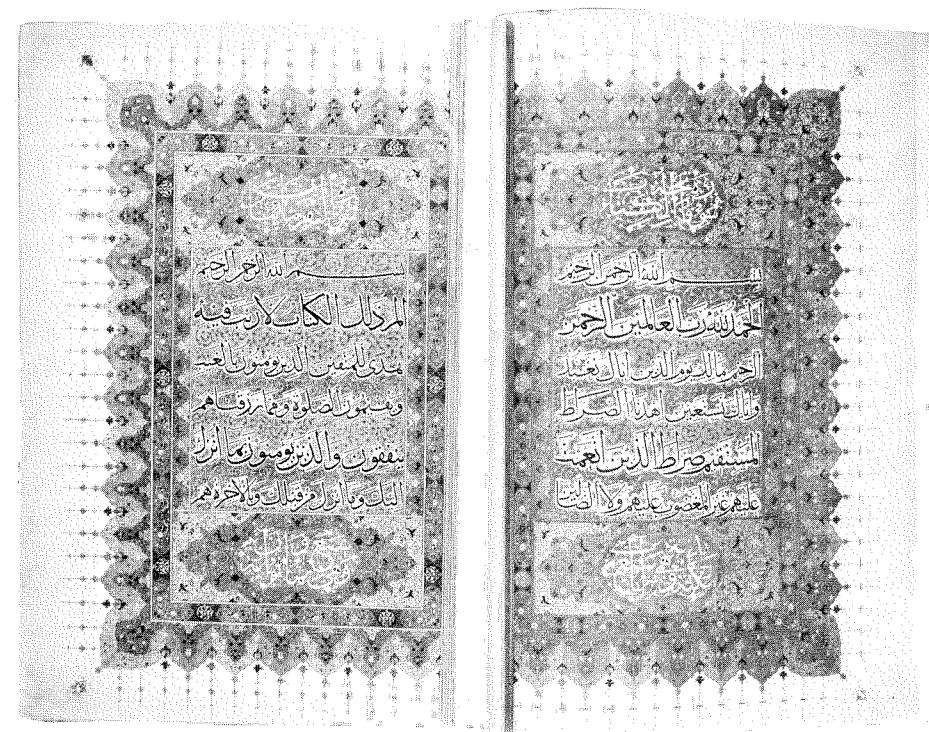
Mughal. The theme of seated figures on a terrace with a garden beyond stretching to a high horizon-line is typical of the Iranian paintings which were the basis of Mughal work. However, the solidity of the figures without recourse to Western techniques, the minutely observed features and the pervading sense of space are entirely Mughal. The receding background is not based on the system of mathematical perspective found in European art, with its fixed vanishing-point — no less artificial than the Iranian 'bird's eye view' — but on a system of multiple vanishing-points, arguably a truer reflection of the way in which human vision functions.

The reverse side contains 6 lines of Persian verse in magnificent *Nasta'liq*:

*How well has spoken that revered Shaykh,  
The Prince of Sages, that is, Nizami,  
'Though you live a hundred years, one day  
this delightful mansion you must leave.  
Better then to be happy,  
And in your joy, think on your Lord'*

The calligraphy is signed by Mir 'Ali Harawi. It is set into an arabesque composition which bears the minute signature of Muhammad Khan Musawwir (the painter).

Published: C.B.L. Indian Cat., vol. III, pl. 58; James, 1974, frontispiece; Welch, 1978, pl. 36.



52 Qur'an

Iran or Mughal India, 16th-17th centuries  
Ms. 1547; fols. 1v-2r; 42.4 x 30 cm

This magnificent Qur'an may be of Iranian origin; however, several features make an Indian (or possibly Central Asian) origin more likely. This is particularly noticeable in the surrounding border where the colour scheme is low-keyed and subtle. The pale greens, greys and strawberry-reds recall the palette of a Mughal miniature-painter rather than that of an illuminator. Also unusual is the use of two different types of gold, in many cases pricked to make it shine. At the top and bottom of either page are oblong panels bearing the sura titles (*Al-Fatiha*; *Al-Baqara*) in fine white

*Thulth*. The text of the right-hand page is written in *Muhaqqaq*, that opposite in *Thulth*. All letters are outlined in black and gold dots. Many of the loops of the letters have been filled in with pink, and are often decorated so that they resemble eyes. There is no colophon so we have no idea for whom, or which mosque, so fine a manuscript could have been made. Our only positive information is that it belonged to the Mughal Emperor Muhammad Nasir al-Din (1719-48) and came to Europe in the 18th or 19th century where it was sold by Quaritch in 1862. The binding is Indian utilitarian.

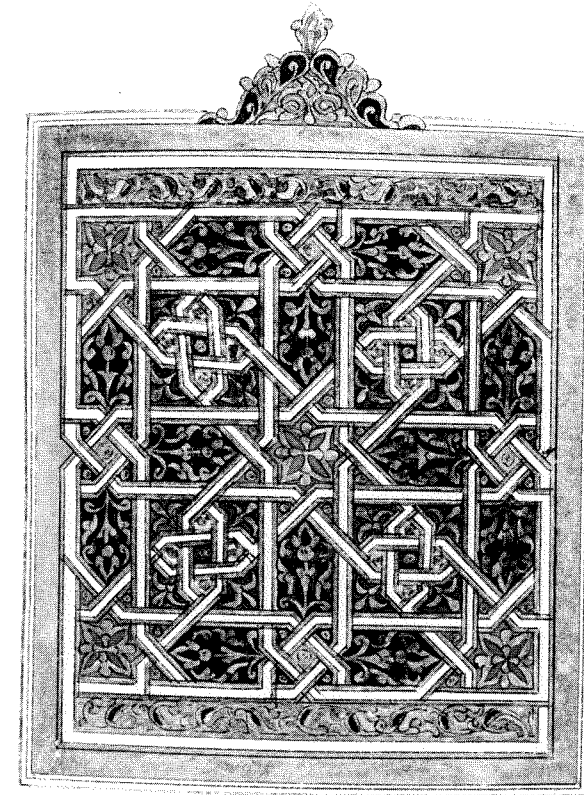
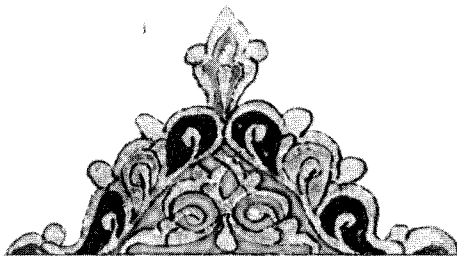
Published: Arberry, no. 163, pl. 55; James, 1980, no. 84.



## The Islamic West

Islam came to North Africa in the 7th century and to Spain in the following one. Islamic Spain (Al-Andalus) was a vibrant, cosmopolitan, often chaotic society which did not survive for very long after the end of the 15th century. Among the manuscripts which have survived from Islamic Spain, a small number are illustrated. There are, however, a much larger number of finely illuminated Qur'ans dating from the 12th and 13th centuries.

There was considerable cultural and intellectual interchange between Islamic Spain and North Africa, as well as a large-scale movement of people between the two areas. Throughout its history Islamic North Africa has been controlled by many different rival dynasties. Following the eclipse of Islamic Spain the most important were the Hafsids in Tunisia (1238-1534) and Sharifids in Morocco. Few if any manuscripts were ever illustrated in North Africa. Those that exist were almost certainly produced by artists from Spain. In both Spain and North Africa, however, there was a tradition of calligraphy about which we know little. Finely-written manuscripts survive from both areas, especially from the latter, though the *Maghribi* scripts in which they are written look strangely archaic beside the examples from the East. One field in which North African craftsmen did excel was that of manuscript illumination. From the end of the 15th century numerous copies of the prayer-book, the *Dala'il al-Khayrat*, were copied and frequently illuminated on a lavish scale.



**53 Opening folios of illumination**  
*Dala'il al-Khayrat* (Guide to Happiness)  
 of Al-Jazuli (d. 1465)  
 North Africa, 18th century  
 Ms. 5459; fols. 1v-2r; 11 x 10.5 cm

Abu 'Abdallah Muhammad bin Sulayman al-Jazuli spent his life in Morocco. His most important work was a collection of prayers, *Dala'il al-Khayrat*, perhaps the best known in the Islamic world. Prayer-books always contained diagrams of Mecca and Medina, and sometimes elaborate illumination. This is especially true of those from North Africa. This one has 60 pages of full-illumination,

comprising diagrams, tables and straightforward decoration. The colour-schemes have all the vividness that is associated with Islamic decoration in the Maghreb. The work is unsigned and undated but was probably made in 18th century Morocco. Two other manuscripts from the same workshop, with identical decoration and binding, are known (Istanbul University Library, Ar. 6756; National Library, Cairo, Tasawwuf 1606). The Istanbul manuscript bears the name of the copyist 'Iyad and a spurious date 500/1106; the Cairo manuscript is on 18th century European paper (see Moritz, pl. 49).

Published: James, 1972.

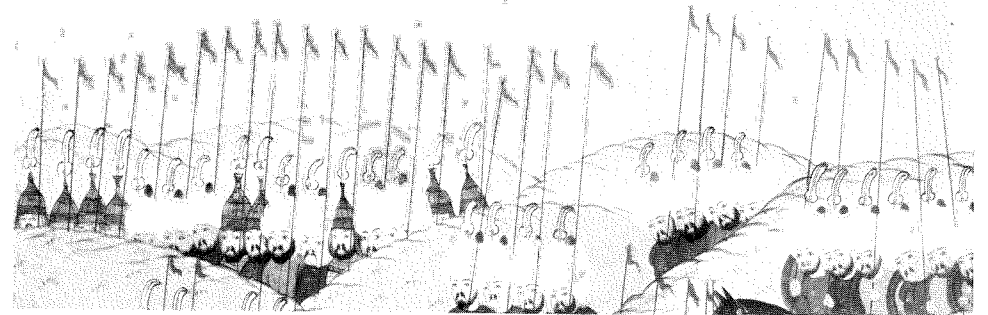
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- Exposition d'Art Persan*, Cairo, 1935
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- Persian Art from before and after the Mongol Conquest*, Ann Arbor, Michigan, 1959
- Persian Miniature Paintings from collections in the British Isles*, Victoria and Albert Museum, London, 1967
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- Imperial Imagery in Persian Painting*, Edinburgh, 1977
- Myth and Ceremony in Islamic Painting*, British Museum, 1977

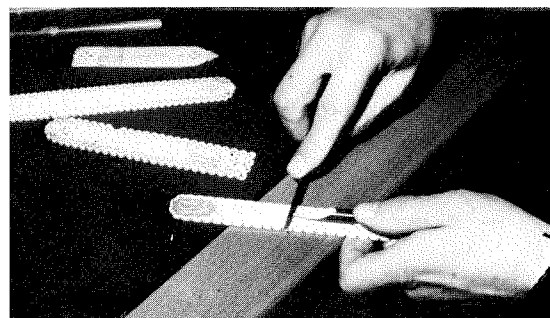
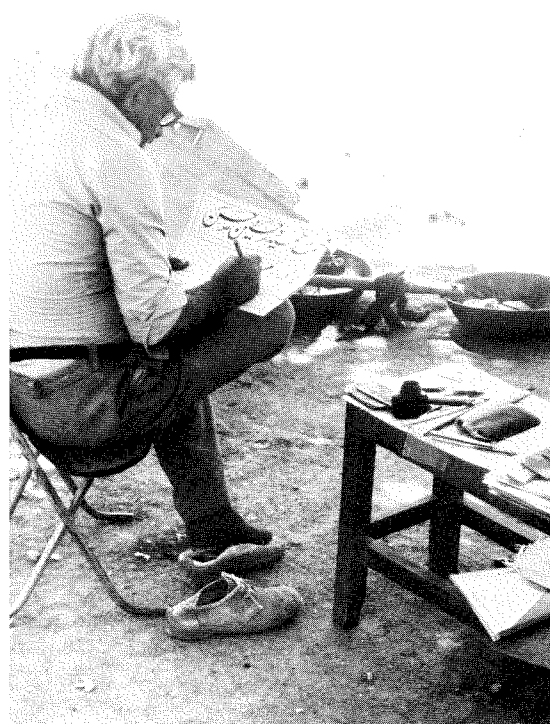


detail # 33(a)



# Materials and Techniques of Islamic Illumination and Bindings

Monique Vajifdar



## MATERIALS

The earliest writing materials used in the Islamic world were parchment (as far as Persia), papyrus (mainly in Egypt), and palm leaf and cloth (in India). Paper-making was a Chinese secret for many centuries; it was only in the 8th century that the Arabs managed to extract the method from Chinese craftsmen captured after the battle of Kanghi. The first state manufacture was established in Samarkand and then in Baghdad in 794 AD.

While parchment was still used, particularly for Korans, paper quickly took over as the writing material. Its quality was continually improved. Whereas the Chinese mixed plant and cloth fibres, the Arabs are credited with making pure rag paper from retted (rotten) linen. There was never enough to meet demand, and according to Barani, firmans (official documents) were washed and the paper re-used. It is not surprising that the 1400 large illustrations for the Hamza Nama were painted on cloth instead of paper.

By the 16th century, several qualities of paper made from rag, linen or silk refuse were available:

Daulatabadi (from Daulatabad, north-west India), Khita'i (from Tartary, northern China), Adil Shahi (from South India), Harari (from Samarkand), Qasimbegi (from Qasim Beg), and Gauni (from Tabriz). In India, 'Hindi' paper was made from bansaha (bamboo), tatha (jute), or tulat (cotton).

## Pens, Brushes and Crayons

Calligraphic pens were invariably reed pens sharpened to a fine point. The best were supposed to come from Wasit in Mesopotamia, although most were home-made, as were brushes. The artist chose hair for his brush which would retain the paint while letting it flow smoothly. Squirrel, buffalo, camel, and Persian cat hair were used, the first being considered the best as

it fused in the required way when wet. The hairs were held together in a feather quill attached to a handle. Charred twigs such as tamarind were used for rough sketching, but more precise lines were effected with a brush and lamp black made by mixing soot from burning oil with gum arabic. When dry, it provides a dense water-soluble ink.

## Pigments

Most colours were mineral pigments, organic colours being more commonly used in textile dyeing than for painting. However, the palette obtainable from minerals was limited: opaque reds and yellows (Vermilion, Ochre and Oppiment) translucent bright blues (Lapis or Azurite), a couple of greens, red/brown, black and white. Organic colours, Indigo, Peori (Indian yellow), Red Lake and Purple Lake, widened the scope for the artist. The brilliance and the subtlety these colours added to their paintings seemed sufficient compensation to them for the lack of permanence they also usually possessed.

**Red:** *Indian red* — red ochre from Hormuz; *minium* — roasted white lead; *vermillion* — crude cinnabar, sulphide of mercury; **Red Lakes:** Kermes and Cochineal — both of insect origin gave various shades from crimson to purple.

**Yellow:** *yellow ochre* — iron oxide, a dense colour, should be finely ground; *Indian yellow* — the most common, made from the urine of cows fed on mango trees; *orpiment* — a brilliant yellow made from sulphide of arsenic but dangerous to use.

**Blue:** *lapis lazuli* — a mineral of the sodalite family, known as azure or ultramarine in the West, the most popular, rich and durable blue pigment; *azurite* — copper carbonate, a cheaper alter-



native which provides a good colour if not ground too fine when it becomes pale and greenish. Several coats are necessary to obtain a solid blue. It turns black when heated, unlike lapis which remains blue.

*indigo*: dark blue vegetable dye.

**White:** *chalk white* — easily obtainable; *lead white* — lead carbonate obtained by immersing lead in vinegar until a white deposit appears, it is then roasted in the sun. (In today's industrial pollution it turns black fairly quickly in a gum arabic medium).

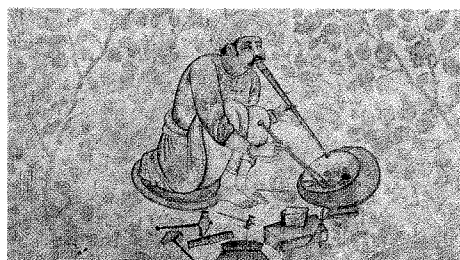
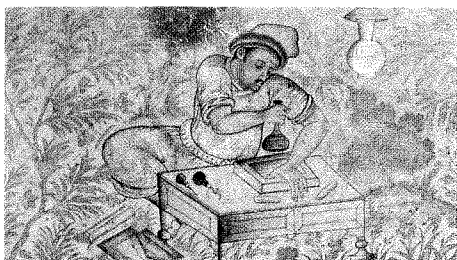
**Black:** *lamp black* — mixed with gum arabic.

**Green:** *malachite* — copper carbonate like azurite, should not be ground too fine; *verdigris* — copper acetate, cheap and easy to obtain but lacking durability; *orpiment mixed with indigo* — a clear green; *terraverte* — green mineral celadonite, used in the late 17th century, cf. Mughal paintings of the period.

**Orange:** *realgar* — sulphide of arsenic like orpiment (incompatible with lead or copper, and not much used); *ochre*; *minium* — roasted lead; *vermillion*.

**Gold:** crushed and mixed with animal size or applied more economically in gold-leaf, used extensively for decorating.

**Gum arabic** was the most commonly used medium, for both the ground and the pigments. The decision of how much medium to use was always delicate. Too much subjected the pigment layer to stress and it cracked; too little and it would flake away in a fine powder. Artists avoided too much gum arabic with pigments of brilliant colour like lapis lazuli, as it spoiled the colour.



## TECHNIQUES

The earliest illustrated books consisted of scientific treatises, cosmographies, collections of fables, and a few prose books. Miniature painting really developed in Persia, and single-leaf illustrations did not become popular before the 15th century, though examples of fine calligraphy had been collected for centuries. The earliest writings were Korans copied out in Kufic script on parchment. The leather merchant provided the parchment and the fine leather for binding. With the introduction of paper a vertical format was adopted and the focus of book production shifted to the paper maker who was also often a bookseller.

The written and recorded word were important in administration. Rulers employed scribes to record proclamations and decrees (*firmans*), calligraphers to copy Korans, and artists to satisfy the cultural aspirations of the court. Craftsmen worked in highly organised workshops (*karkhana*) either attached to the royal library as in Persia or in the market near the palace as in Delhi.

**The Karkhana** A craftsman wishing to join a *karkhana* would submit examples of his work. If accepted he received security, a regular salary (even if paid annually) and special rewards when his work found favour with the ruler. Chardin says there were as many as 32 *karkhana* in Isfahan in the mid-17th century, all catering to the needs of the Shah and his court.

## Calligraphy

Each page was first planned by the calligrapher. If copying a Koran, he had to follow set laws on the distance between letters, the width of margins, and the empty spaces to leave. According to Arnold, a calligrapher could copy 100 pages in one day. The page was then decorated by the illuminator (*gilder*), who divided it with geometrical designs of lat-

tices and stars and inter-lacing arabesques. Tabriz succeeded Samarkand as a centre of book-illumination. There the title page was divided into star- or medallion-shaped areas, with borders with cartouches (a motif later adopted by rug-makers).

## Illumination

After the page had been written, the painter added his illustration, either sketching directly onto the paper, using its texture to effect, or applying a ground of white pigment to highlight the brilliance of the colours. Much has been written about the tracing of drawings through transparent deer or gazelle skins, but this was only necessary if several people were working on one painting. The master would compose the picture; another, probably an apprentice, traced it into the ground; yet another applied the first colours; then the master would apply the finishing touches — the faces, or a difficult fold in a gown. With such composite pictures, each artist painted what he was best at — portraits, animals or clothing — and the master artist could oversee the painting of several works at once and still get on with his own commissions.

Tracing, like repeating controlled brush strokes, was a teaching method and pupils had to keep on until judged competent enough to proceed to the next stage, which was painting in areas of colour. Intricate paintings could take a long time, sometimes several years, but as long as the patron was satisfied the artist was allowed to proceed at his own pace. If the painting was a single sheet, the artist would fix it to a backing made up of laminated sheets. It was then gently burnished with a polished stone: this helped to bring out the brilliance of the colours. A decorated border was often added, then the work was passed on to the binder.

## Binding

The earliest bindings were wooden boards tied around the stacked pages; alternatively documents were written on strips of parchment or paper, stuck together in lengths of sometimes several metres, and rolled up. In the 7th century sheets were sewn together in codex (bound) form. According to Al-Muqaddasi, a book-binder in the 10th century, the sections were sewn, then glued together and the case stuck on with wheat starch. Craftsmen who specialised in decorating book covers worked near the *warraqun* who made and sold paper, inks and pens, copied and sewed books. These book-shops are mentioned by several writers as being frequented by people of learning.

Binders used traditional types of leather-work to decorate the covers. Hides were brought from Kirman in Persia and Zayla in Africa, tanned in the Yemen, and then exported as far as Transoxania. Morocco leather came from At-Ta'if and striped Cordovan leather from Sarr'a where there were 33 tanneries in 991 A.D. Most bindings were in case form with a flap on the upper cover to close the book. Fastenings were either a metal clasp or a loop which slipped over a metal or bone peg.

Pages were squared up with the pagination from right to left. There was often a double decorated title page, usually balanced by an equally ornate pair of end pages. The name of the calligrapher and the artist were sometimes in the colophon along with the date and place of production. One or many seals often found on outer pages, indicate previous ownership.

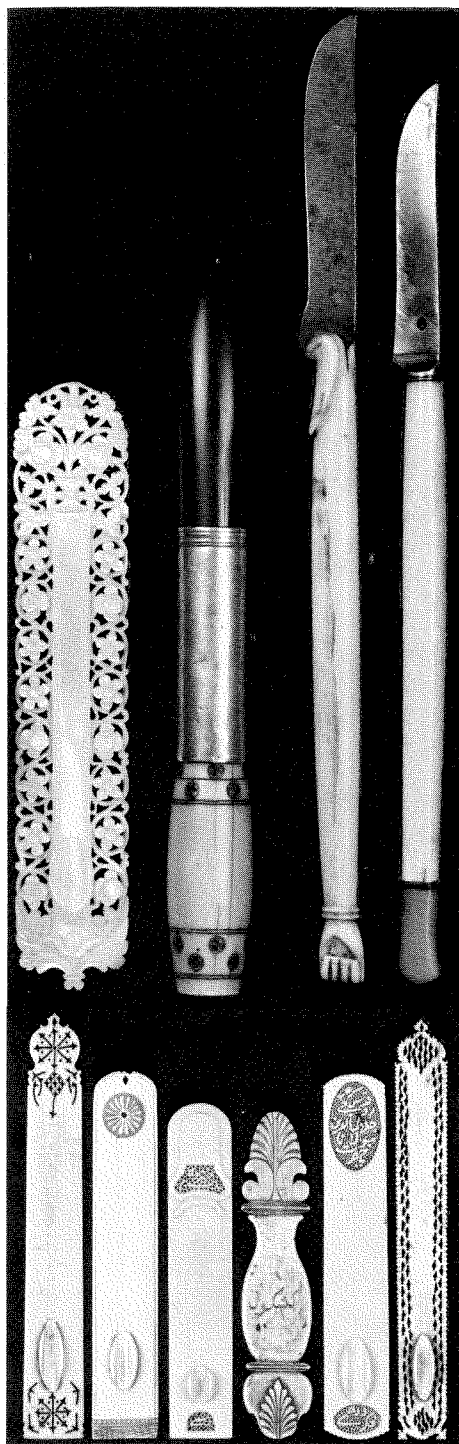
Covers were decorated in many ways. A case made of wooden boards covered in leather could have a design tooled and stamped directly onto the moistened leather. If the boards were papyrus or paper, the design was stamped before the leather was glued on. Covers of open-work cut leather

with coloured strips behind were made before the book was assembled. Alternatively, a design was made in ink, or the cover was lacquered and then elaborately decorated.

## Select Bibliography

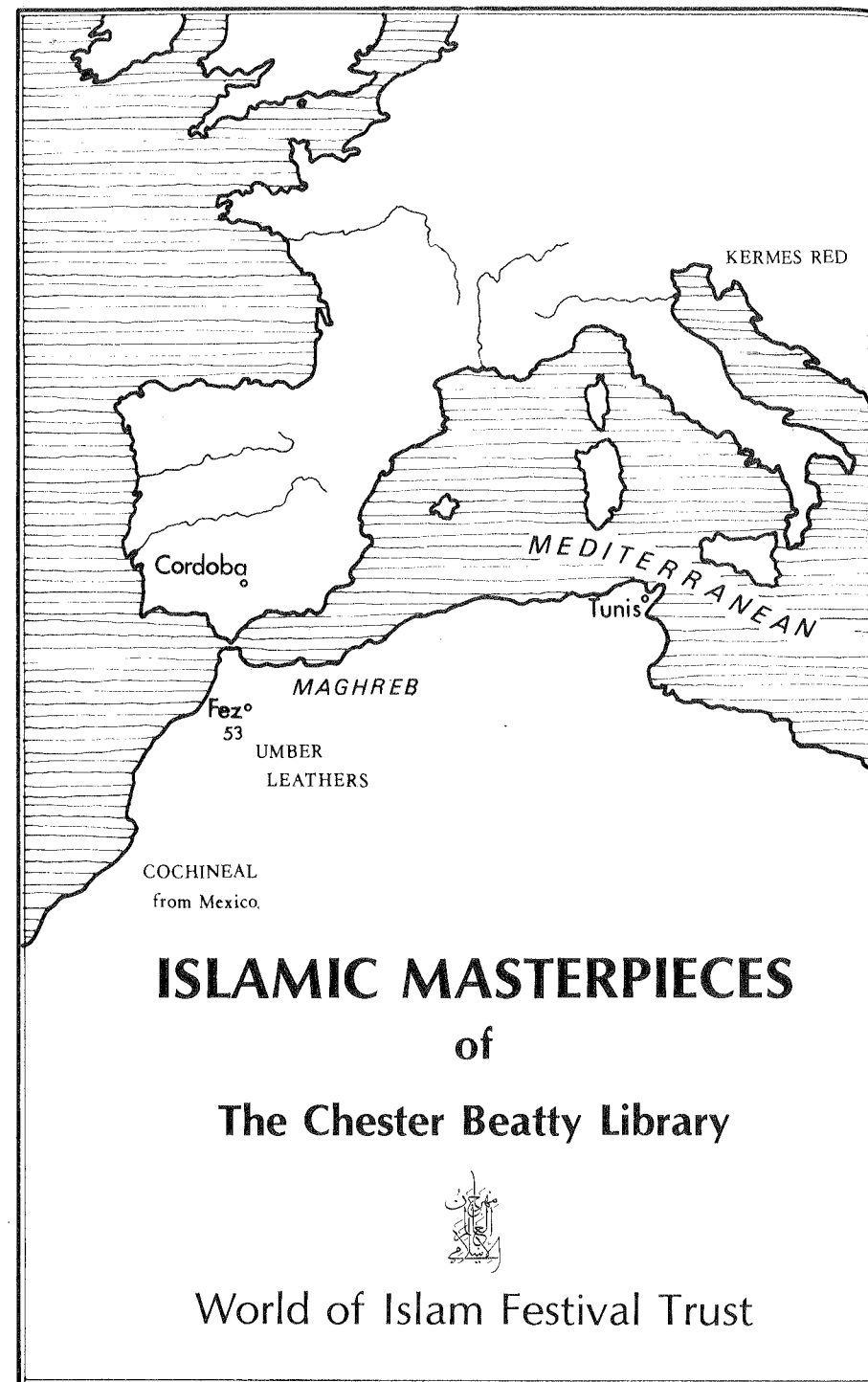
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Artists making books (courtesy Smithsonian Institution).  
Pupil and writing master, Istanbul, early 19th century.  
Calligrapher writing prayers in a Shiraz street, Iran.  
Cutting the point of the *qalam* on an ivory *maqta*.  
(photos D. James)

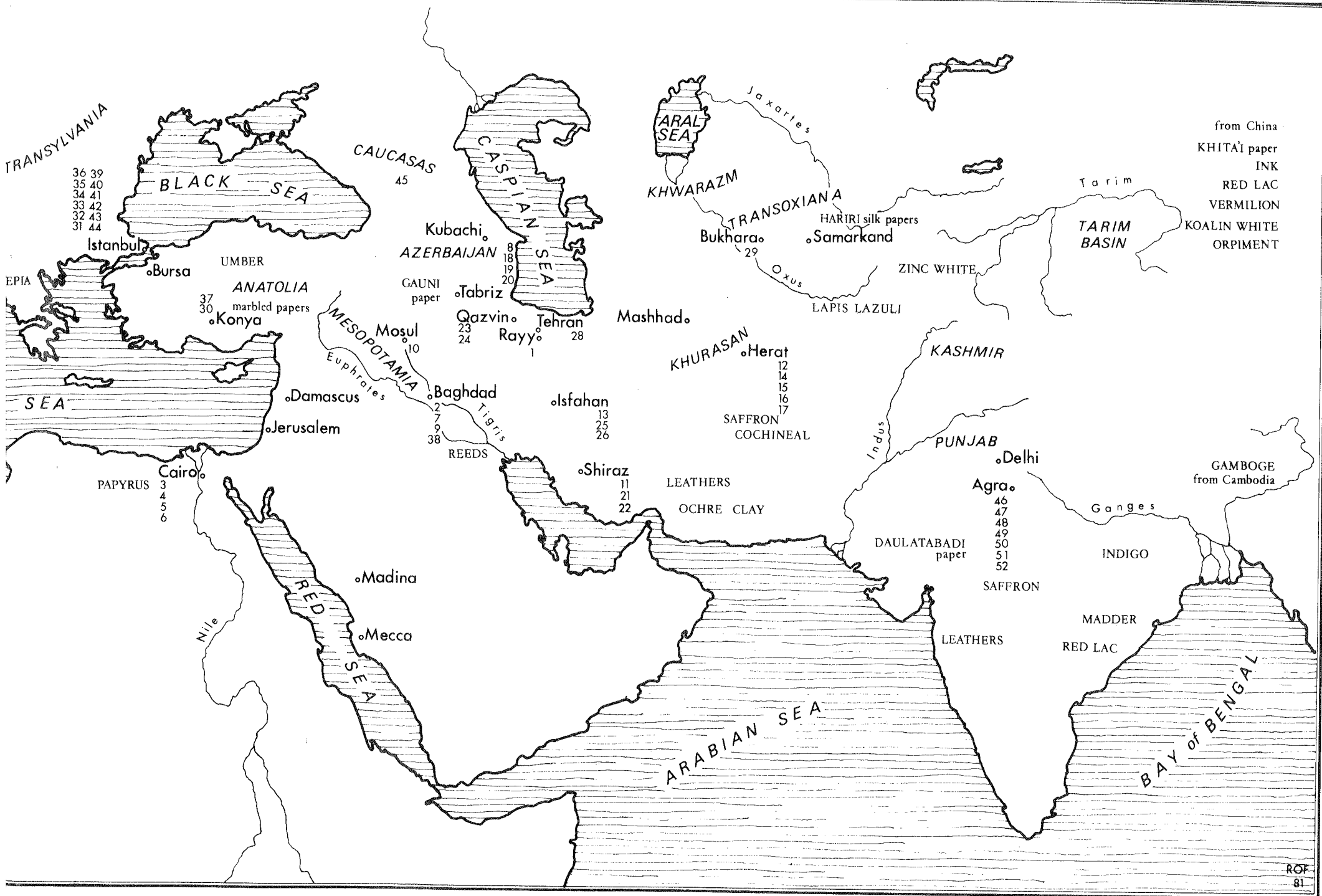


## Calligraphic Implements by Courtesy of Ahuan Islamic Art

1. A mother-of-pearl calligrapher's *maqta*, carved with flowers and vines  
12.7 cm long  
Istanbul, 19th century
2. An agate paper polisher bound in silver and with an inlaid ivory handle  
14.8 cm long  
Turkey, 18th century
3. A calligrapher's knife with a steel blade bearing a maker's stamp and a bone handle carved with a hand at the end  
20.3 cm long  
Turkey, 18th century
4. A calligrapher's knife, the steel blade stamped with a maker's mark, the handle made of tusk with a coral tip  
19 cm long  
Turkey, 18th century
5. An ivory calligrapher's *maqta* pierced at each end with an octagonal star design  
16.2 cm long  
Turkey, 18th century
6. An ivory calligrapher's *maqta* carved with a wheel motif  
14 cm long  
Turkey, 19th century
7. An ivory calligrapher's *maqta* carved and pierced with a Mevlevi turban enclosing the inscription 'Ya hazrat Mawlana', and signed by the maker, Rasmi  
12.8 cm long  
Konya, 19th century
8. An ivory calligrapher's *maqta* carved in classical style, engraved and gilt with the inscription 'kashkul', originally stained red  
12.7 cm long  
Turkey, 18th century
9. An ivory calligrapher's *maqta*, pierced with a dedicatory inscription to Jalaluddin Rumi, and signed by the maker, Fikri Dede  
14 cm long  
Turkey, 19th century
10. An ivory calligrapher's *maqta* decorated with a pierced design  
16.2 cm long  
Turkey, 17th-18th century





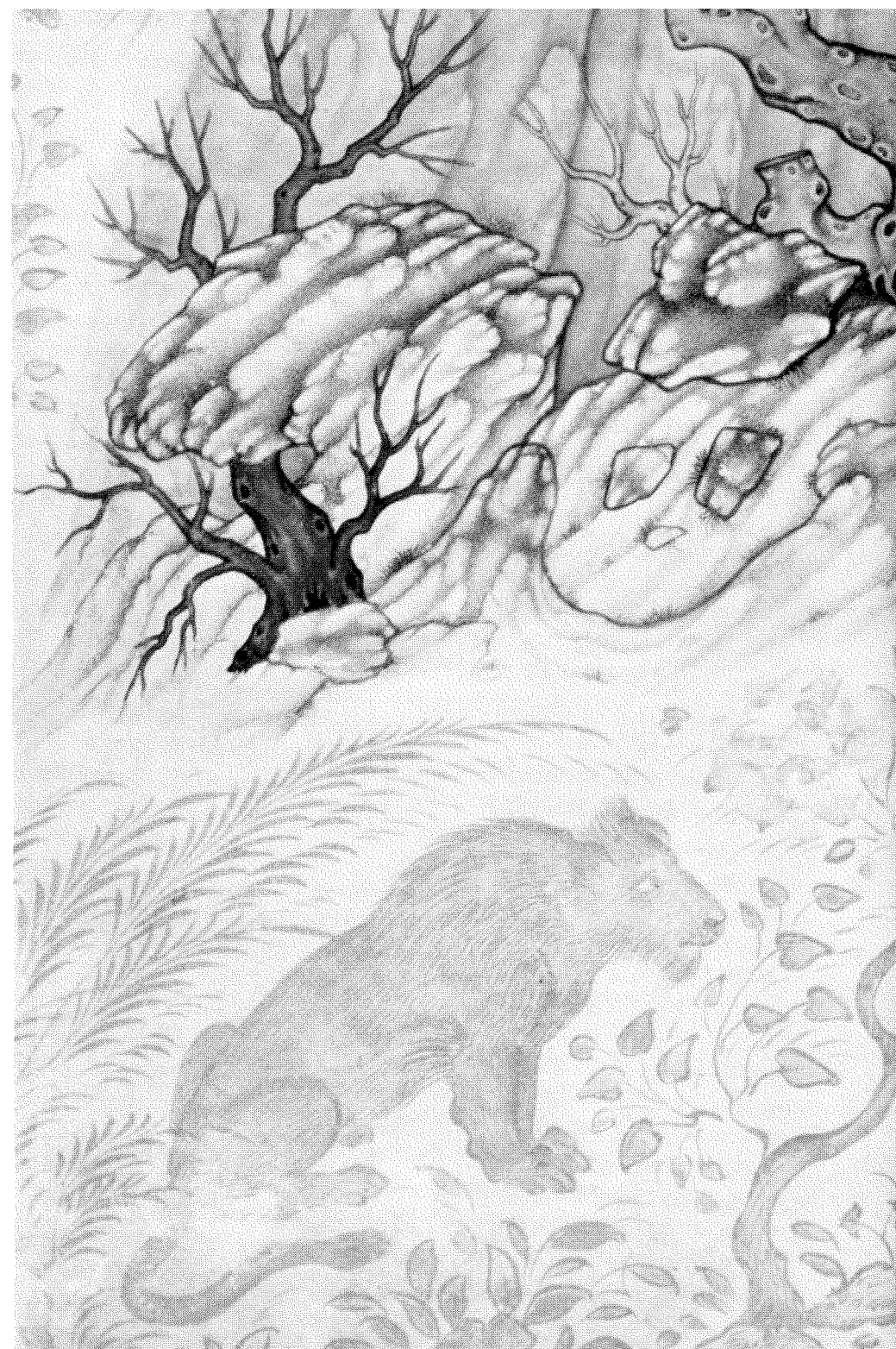


## Programme of Public Lectures

- MAY 14th FILMS ON THE CHESTER BEATTY LIBRARY AND  
ISLAMIC COLLECTION
- MAY 20th THE CHESTER BEATTY LIBRARY AND GALLERY OF  
ORIENTAL ART  
Patrick Henchy, LL.D.
- MAY 26th ART OF CALLIGRAPHY  
Ahmed Moustafa
- MAY 27th ISLAMIC AND CHRISTIAN ORIENTAL  
BOOKBINDINGS AND THEIR TECHNIQUES  
Guy Petherbridge
- JUNE 3rd MUGHAL MANUSCRIPTS AND MATERIALS  
Robert Skelton
- JUNE 10th TURKISH MANUSCRIPTS AND MATERIALS  
Julian Raby
- JUNE 17th PERSIAN MANUSCRIPTS AND MATERIALS  
Basil Robinson, M.A., B.Litt.
- JUNE 24th QUR'ANS AND CALLIGRAPHY  
David James

Admission free:  
commencing at 7.00 p.m.

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که بودش انجا کنا م از کرو  
سوی بچکان بر دما بشکند  
بدان لاله زار انوشکند